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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,356	08/02/2006	Katsumi Yamaguchi	050635	6417
23850 7590 04/22/2011 KRATZ, QUINTOS & HANSON, LLP 1420 K Street, N.W. 4th Floor WASHINGTON, DC 20005			EXAMINER VAN, QUANG T	
			ART UNIT 3742	PAPER NUMBER
			MAIL DATE 04/22/2011	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/551,356

Applicant(s)

YAMAGUCHI ET AL.

Examiner

Quang T. Van

Art Unit

3742

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-8 is/are pending in the application.
- 4a) Of the above claim(s) 5, 6 and 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-940)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al (US 5,289,975) in view of Yamada (US 2003/0051851) and JP2001-293551 all previously cited, and also in view of Anderson et al (US 5,423,520). Miller discloses a method and apparatus for atomizing molten metal comprising a discharge nozzle (10) which melts metal and discharge port for jetting the molten metal from one end of said discharge nozzle (col. 2, lines 55-65). However, Miller does not disclose a pressing body and said discharge nozzle includes a curved surface shaped inner wall and said molten metal jetted from said discharge port is spherical molten metal droplets. Yamada discloses, figure 7, a pressing body (20A), and JP 2001-293551 discloses, figure 2, said discharge nozzle (12) includes a curved surface shaped inner wall (Figure 2). Anderson discloses a molten metal jetted from said discharge port is spherical molten metal droplets (col. 3, lines 60-68). It would have been obvious to one ordinary skill in the art at the time the invention was made to utilize in Miller a pressing body as taught by Yamada in order to press said molten metal in said nozzle, and said discharge nozzle includes a curved surface shaped inner wall as taught by JP 2001-293551 in order to form a focal point at said discharge port or in the vicinity of said

discharge port, and a molten metal jetted from said discharge port is spherical molten metal droplets as taught by Anderson in order to quench to form fine metallic powders.

Response to Amendment

3. Applicant's arguments filed 3/9/2011 have been fully considered but they are not persuasive.

4. Applicant argues that neither Yamada nor JP2001-293551 discloses or suggests the structure to concentrate the pressure applied by the pressing body on the discharge port of the discharge nozzle, and therefore, claims 4 and 7 are not obvious over Yamada and JP2001-293551, taken separately or in combination. This is not found persuasive. Miller discloses substantially all features of the claimed invention as disclosed above except a pressing body and said discharge nozzle includes a curved surface shaped inner wall and said molten metal jetted from said discharge port is spherical molten metal droplets. Yamada discloses, figure 7, a pressing body (20A), and JP 2001-293551 discloses, figure 2, said discharge nozzle (12) includes a curved surface shaped inner wall (Figure 2). Anderson discloses a molten metal jetted from said discharge port is spherical molten metal droplets (col. 3, lines 60-68). It would have been obvious to one ordinary skill in the art at the time the invention was made to utilize in Miller a pressing body as taught by Yamada in order to press said molten metal in said nozzle, and said discharge nozzle includes a curved surface shaped inner wall as taught by JP 2001-293551 in order to form a focal point at said discharge port or in the vicinity of said discharge port, and a molten metal jetted from said discharge port is spherical molten metal droplets as taught by Anderson in order to quench to form fine

metallic powders. Further, Yamada is only cited for the missing limitation of a pressing, and body, JP 2001-293551 is only cited for the missing limitation of the discharge nozzle includes a curved surface shaped inner wall, and Anderson is cited for the teaching of spherical molten droplets of the melt discharged. Miller, Yamada, JP 2001-293551, and Anderson are all in the same technical field of nozzle with melting molten alloy material, therefore, one ordinary skill in the art would used these references to combine.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang T. Van whose telephone number is 571-272-4789. The examiner can normally be reached on 8:00Am 5:00Pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quang T Van/
Primary Examiner, Art Unit 3742
April 20, 2011

Quang T Van
Primary Examiner
Art Unit 3742